ATTACHMENT I

AR226_1374

TIME LINE FOR C-8 CONTROL PROGRAM

March 20, 1981	• Informed by 3M of embryotoxic effects observed in preliminary animal studies with C-8.
March 27, 1981	• 3M was visited by Du Pont personnel to verify validity of test results.
March 27-31, 1981	• Decision made to move all females from TEFLON® area and procedures developed for handling temporary moves (Attachment II - typed April 9, 1981).
March 31, 1981	• Standby Media Statement and Questions and Answers received (Attachment IV).
April 1, 1981	• Employees informed and all females temporarily removed from exposure area (Attachment III). • Begin blood sampling of females involved. Completed April 10, 1981. • Begin verbal contacts with contractors as needed to assure no females of childbearing capability in exposure area.
April 6, 1981	• Complete Company communications package issued (Attachment IV).
April 8, 1981	• Work begins on dispersion modeling to determine airborne exposures in other areas of the Plant. Initial data obtained June 3, 1981. Final results completed August 7, 1981 (Attachment XIV).
April 12, 1981	• With medical approval, females of non-childbearing capability allowed to return to TEFLON®.
April 14, 1981	• Second communication to answer questions raised by females after the initial Plant announcement (Attachment V). • Supplemental Media Standby Questions and Answers issued (Attachment VI).
April 15, 1981	• Communication of procedure for permanent reassignments to all wage roll (Attachment VII).

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ATTACHMENT I

(cont.)

April 24, 1981	• Begin permanent reassignments. • Blood sampling begins on male employees entering TEFLON® Division jobs.
May 4, 1981	• Additional toxicity testing starts at Haskell Laboratory. • Plant Medical Superintendent calls area obstetricians to discuss C-8 situation (Attachment VIII).
May 6, 1981	• Initial blood sample results received and communicated to individuals (example -- Attachment IX).
June 9, 1981	• Letters of communication issued to waste disposal vendor (Attachment X). • Notification letters issued to air pollution and water resources authorities (Attachments XI, XII).
August 4, 1981	• Employee communication on blood sampling and status of program (Attachment XIII).

JFD:mah
12/14/81

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PERSONAL AND CONFIDENTIAL

April 9, 1981

EMPLOYEE RELATIONS CONSIDERATIONS
(Ref. C-8 Communication 4-1-81)

Temporary Moves

1. Protect pay of Zone VI on loan - 2 employees.
2. All moves out of TEFLON® will be on shift announcement made.
3. All moves are temporary.
4. All TEFLON® females loaned to other divisions will be put on new division overtime roster immediately.
5. TEFLON® females loaned are to be by-passed and not charged until qualified for an OT assignment.
6. Six pool employees loaned to TEFLON® will be put on TEFLON® overtime roster immediately.
7. All male group employees loaned to TEFLON® will remain on their home roster.
8. Temporary loans from TEFLON®:
    1. All employees stay on current shift
    2. Moves made on need, work experience and seniority.
9. Male employees moved to TEFLON® were all from 2/23/81 hiring - least senior male employees.

Permanent Moves

1. Females that want and have approval will return to TEFLON® on 4/12/81.
2. Females that desire to stay in TEFLON® must talk with Dr. Power by 4/10/81.
3. Division will post on 4/13 - posting down 4/16.
4. Gate posting on 4/20 - down 4/23 - announce successful bidders 4/24/81.
5. All moves announced on 4/24 will be made immediately.
6. All TEFLON® females that do not return to TEFLON® will be <u>required</u> to bid on gate posting.

Permanent Moves (Cont'd)

7. An equivalent number of junior males (minus seven pool employees) will be required to bid with TEFLON® as a choice.

8. Female employees that bid out of TEFLON® on gate posting will take their TEFLON® group service with them to new division. However, will not be used to disadvantage of employee in new division with more plant service.

9. Zone VI females that bid out of TEFLON® will have pay protected in new division until (1) they have seniority to be a successful bidder on a Zone VI job; (2) they voluntarily bid out of new division; or (3) they are involved in reduction of force to utility pool. In each case employee pay rate will be downgraded per Green Book procedure.

10. Vacation selection previously made by TEFLON® females required to bid to other division will be honored.

EMB/WAB:jsh

ATTACHMENT III

CC: J. H. Todd
G. T. Rosenlund
W. A. Bower
D. D. Dalton
O. L. Darby
W. T. Darnell
H. D. Ramsey, Jr.
A. R. Stoltenberg
R. N. Taylor
E. P. Waltzer

March 31, 1981

TO: SUPERVISION THROUGH DIVISION SUPERINTENDENTS

FROM: R. J. BURGER

C-8 COMMUNICATION

Attached information will be communicated on the following schedule.

• All Division Superintendents	9:00 a.m., Tuesday, 3/31/81
• All Fluoropolymer Supervision Through Foremen -- Completed By:	4:00 p.m., Tuesday, 3/31/81
• All Other Supervision Through Supervisors -- Start At:	1:00 p.m., Tuesday, 3/31/81
• All Supervision Through Foremen	9:00 a.m., Wednesday, 4/1/81
• All Fluoropolymers Employees	12:00 Noon, Wednesday, 4/1/81
• All Other Employees	2:00 p.m., Wednesday, 4/1/81

RJB/djp

Attachment

AJP002597

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EMPLOYEE COMMUNICATION

We have been informed by the 3M Company about the preliminary results of a new animal study involving the fluorosurfactant, C-8, which is an essential material that has been used in excess of twenty years in fluoropolymer resins manufacture at Washington Works. 3M is our principal supplier for this chemical.

We were advised on March 20, 1981, that C-8, also known as FC-143 or ammonium perfluorooctanoate, caused birth defects in the unborn when fed by stomach tube to female rats in a laboratory experiment. This was a preliminary study designed to determine dosage limits prior to a full-scale study on C-8's potential to cause birth defects in rats.

At this time, we do not know the significance, if any, of the preliminary animal experiment as it may relate to employee exposure. Further studies are planned to define possible reproductive effects.

As a precaution based on the new study we have decided, that until further information is obtained, all female employees will be removed from areas where there is potential for exposure to C-8 and loaned immediately to other divisions. These female employees will consult with our Plant Medical Division, and those of non-childbearing capability will be given the option to return to the Fluoropolymers area. Women of childbearing capability will be allowed to bid for other plant jobs after a permanent plant posting has been made. Present pay rates will be maintained and vacation selections previously made will be honored for those females reassigned.

During the period that C-8 has been used at Washington Works, there has been no known evidence that our employees have been exposed to C-8 levels that pose adverse health effects. A preliminary acceptable exposure limit of 0.01 mg/m3 (0.56 parts per billion) was established which we believe has adequately protected our employees. At exposure levels experienced by our employees, there is no evidence to suggest there is any impairment of the male reproductive function.

3M first notified us in 1978 that exposure to C-8 could result in elevated organic fluoride levels in the blood of its employees and that these elevated levels could persist for extended periods of time. At that time, we notified employees, embarked on an extensive program to reduce exposure levels, and began blood monitoring analyses. Employees have been kept advised on new developments and of blood test results.

We ask your cooperation with job reassignments and participation in a program for additional blood sampling.

We will inform you promptly as new information is obtained.

RJB/djp

QUESTIONS AND ANSWERS

- To Be Used As Needed To Answer Questions -

If there are any questions not answered below, they should be referred to Plant Management.

1. Q: How many female employees at your Parkersburg plant may have been exposed to C-8?

   A: About sixty worked in areas where there is potential for exposure.

2. Q: Have you sampled the blood of these employees to determine if they have elevated organic fluoride levels?

   A: Some but not all female employees have been sampled as part of our existing programs.

3. Q: Do they have levels of C-8 above normal?

   A: Yes, some do.

4. Q: Are any of the sixty female employees pregnant?

   A: Yes, two that we know of.

5. Q: Are there any former employees you know of who may have been exposed to C-8 and who are now pregnant?

   A: Yes, one that we know of.

6. Q: What have you advised these pregnant women to do?

   A: We have advised these employees to consult the plant physician for an explanation of the potential risks and will have them consult also with their personal physician. The exact significance of the animal test results to the human offspring is yet unknown. However, we believe it prudent to eliminate any further exposure that results in blood levels greater than background until additional data are obtained.

7. Q: Have you attempted to locate former female employees to advise them of the 3M Company's animal study which indicated that C-8 may be teratogenic?

   A: We are in the process of reviewing our employment records and where appropriate, former employees will be notified.

8. Q: Do you have any knowledge of Du Pont employees or former employees who have been exposed to C-8 whose children suffered birth defects?

   A: No. There is no evidence of birth defects among children born of mothers who have been exposed to C-8 compounds at Du Pont.

9. Q: Do you have any knowledge of 3M Company employees or former employees who have been exposed to C-8 whose children suffered birth defects?

   A: No. We are not knowledgeable of the pregnancy outcome of any 3M employees or former employees who were exposed to C-8.

10. Q: What is the possibility that employees or former employees of childbearing age with elevated organic fluoride levels may give birth to children with defects.

    A: We do not know, but we are taking appropriate steps to avoid further exposure.

11. Q: Is there any indication that male employees or former male employees exposed to C-8 may have suffered loss of reproductive function?

    A: We have no indication that C-8 has an effect on the male reproductive system or its function. The reproductive organs of the male laboratory animals exposed to C-8 were closely examined and were normal, with no evidence of abnormalities attributable to C-8 exposure.

12. Q: Are there any tests that can assure the fetus is all right?

    A: There are no tests which can assure that the fetus is all right. There are tests which can detect fetal abnormalities in some cases. If these tests are done and are normal, there is a good likelihood that the fetus is all right.

13. Q: What advice do we have for women of childbearing capability who have been exposed, about becoming pregnant?

    A: This is a personal subject between the woman and her physician.

14. Q: Will elevated organic fluoride levels in the blood decrease in time?

    A: Yes.

15. Q: How long does it take for these levels to fall to background levels?

    A: It is not known at this time. Blood samplins is continuing.

16. Q: Can employees and former employees with elevated organic fluoride levels donate blood safely?

A: Blood donating is a deferrable option. Persons who have elevated blood levels of C-8 or who have worked in areas of potential exposure to C-8 and the blood level has not been determined should not donate blood until the blood level of C-8 returns to background levels.

17. Q: What is the background level?

A: In our experience in blood tests conducted among employees with little chance for potential exposure, organic fluoride blood levels ranged up to 0.4 ppm

18. Q: Have you resampled employees' blood recently?

A: Yes, and we are taking additional samples in an ongoing program.

19. Q: Were the levels lower in the recent blood samples?

A: So far there is no obvious trend with the data available.

20. Q: Is there danger to the families of employees who work in the area?

A: By following the established practices and procedures, use of personal protective equipment and following good personal hygiene practices, there should be no hazard to the employee's family.

21. Q: What operating procedures were instituted by Du Pont after the first 3M report in 1978?

A: Extensive engineering programs were developed which included equipment modifications and increased use of personal protective equipment. In addition, we instituted blood monitoring and air sampling programs as well as more stringent housekeeping standards.

22. Q: What additional changes in operating procedures do you plan now?

A: This has not been determined. We are reviewing the situation.

23. Q: Are you looking for a substitute for C-8?

A: Yes, we have been for some time.

24. Q: What are the possible substitutes?

A: We have not idenfified one at present.

25. Q: Why did the 3M Company test C-8 for teratogenicity?

A: We understand that C-8 is chemically similar to other compounds made by 3M and that in earlier testing were found to be teratogenic.

26. Q: When did Du Pont learn of the latest study results?

A: March 20, 1981.

27. Q: Has the appropriate Federal regulatory agencies been notified?

A: Yes. 3M, our supplier, has notified EPA of the study and its results.

28. Q: What were the birth defects noted by 3M in the unborn fetus?

A: Eye defects are reported but complete testing will be required.

29. Q: What additional animal testing is planned?

A: Elaborate C-8 teratology evaluations of laboratory results to confirm 3M preliminary results and to identify safe exposure level for females.

30. Q: What is Du Pont's policy on employing women around embryotoxins?

A: Women of childbearing capability are allowed to work in areas of potential exposure to teratogens where a safe exposure level is known and the exposures can be maintained below these levels. Women of childbearing capability are not allowed to work in areas where safe levels are not known or where the potential exposures are above safe levels. Women who are not of childbearing capability can work in areas of potential exposure to teratogens.

31. Q: Has Du Pont ever required or suggested that an employee be sterilized?

A: No.

32. Q: Are there any other chemicals used at your Parkersburg plant that are embryotoxic?

A: Yes, DMF (dimethyl formamide) and HFA (hexafluoroacetone).

33. Q: What products are sold by Du Pont using C-8 (ammonium perfluorooctanoate)?

A: Various fluorocarbon resin and dispersion products.

34. Q: Is there any problem involved with cookware which has been coated with fluorocarbon resin?

A: No

35. Q: Will Du Pont be notifying its customers of the most recent findings reported by 3M?

A: Yes.

36. Q: Have women been removed from exposure at all Du Pont locations?

A: No, not at those locations where blood levels are at background.

RJB/djp
4/1/81

Z-169 REV. 12-79

DUPONT
ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

POLYMER PRODUCTS DEPARTMENT

FINAL COMMUNICATIONS PACKAGE

April 6, 1981

PERSONAL AND CONFIDENTIAL

R. E. DREXEL
E. D. BOELTER
I. A. LUNDGAARD
R. L. RICHARDS, JR.
J. C. BESPERKA
J. T. SMITH
W. R. DE GRAW/M. ROCCONI
N. J. IRSCH
P. J. MEYERS
H. E. SERENBETZ
J. W. RAINES
F. N. ARONHALT
E. D. CHAMPNEY
J. A. BLUMBERG
H. A. SMITH
L. F. PERCIVAL
D. C. SANDERS
M. A. SMOOK - CHS-314
*J. H. TODD - WASH. WKS.
*H. F. CANFIELD - CIRCLEVILLE
*J. F. GLEITZ - GERMAY PARK
*B. W. MELVIN - CHESTNUT RUN

J. R. GIBSON - ADMIN
W. E. TATUM - ADMIN
J. F. SCHMUTZ - LEGAL
G. A. HAPKA - LEGAL
C. D. DE MARTINO - ER
B. W. KARRH - ER
R. P. MC CUEN - PA
J. L. STOWELL - PA
B. C. MC KUSICK - CR&D
A. L. DADE - F&F
W. R. HENDRIX - F&F
F. E. FRENCH - C&P
R. L. RHODES - FIBR
A. A. WRIGHT - FIBR
A. C. HAVEN - INTL
*W. G. MIKELL - EXP. STATION
A. B. PALMER - C&P
C. C. GRIFFITH - PHOTO
*W. C. EVANS - DORDRECHT
H. G. DRINKWATER - GENEVA
C. D. ROBINSON - GENEVA
J. B. SHAFER - SPRUANCE

C-8 PERFLUOROOCTANOATE

Attached is the final employee communications package that is being used to implement corporate actions relative to recent findings by 3M on the teratogenic potential of ammonium perfluorooctanoate.

It contains the communications schedule, appropriate employee communications, questions and answers, media standby-statement, a letter outlining activities of the FC-143 Communications and Coordination Committee, and letters to customers.

Please destroy all previous drafts.

R. D. INGALLS
ENERGY & ENVIRONMENTAL AFFAIRS
MANUFACTURING DIVISION

RDI/is
Attachments
*Employee Communication for individual site only.

AJP002609

INDEX

*Refers to number in upper right hand corner of page.

PERSONAL & CONFIDENTIAL

C-8 - EMPLOYEE COMMUNICATION

Timetable:

	Initial Communication E.S.T.
Washington Works	
• Line Supervision through 2nd Line	3/31 09:00
• First Line Supervision	4/1 09:00
• Wage Roll	4/1 12:00
Other Domestic Locations	
• Supervision - Same as above	
• Wage Roll - Same as above	
Foreign Locations	
• Europe	4/2 A.M. (local)
• Japan	4/2 A.M. (local)

NJI:adw
3/30/81

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EMPLOYEE COMMUNICATION

We have been informed by the 3M Company about the preliminary results of a new animal study involving the fluorosurfactant, C-8, which is an essential material that has been used for more than 20 years in fluoropolymer resins manufacture at Washington Works. 3M is our principal supplier for this chemical.

We were advised on March 20, 1981 that C-8, also known as FC-143 or ammonium perfluorooctanoate, caused birth defects in the unborn when fed by stomach tube to female rats in a laboratory experiment. This was a preliminary study designed to determine dosage limits prior to a full-scale study on C-8's potential to cause birth defects in rats.

At this time, we do not know the significance, if any, of the preliminary animal experiment as it may relate to employee exposure. Further studies are planned to define possible reproductive effects.

As a precaution, based on the new study we have decided that until further information is obtained, all female employees will be removed from areas where there is potential for exposure to C-8 and loaned immediately to other divisions. These female employees will consult with our Plant Medical Division, and those of non childbearing capability will be given the option to return to the fluoropolymer area. Women of childbearing capability will be allowed to bid for other plant jobs after a permanent plant

posting has been made. Present pay rates will be maintained and vacation selections previously made will be honored for those females reassigned.

During the period that C-8 has been used at Washington Works, there has been no known evidence that our employees have been exposed to C-8 levels that pose adverse health effects. A preliminary acceptable exposure limit of 0.01 mg/m^3 (0.56 parts per billion) was established which we believe has adequately protected our employees. There is no evidence to suggest there is any impairment of the male reproductive function.

3M first notified us in 1978 that exposure to C-8 could result in elevated organic fluoride levels in the blood of its employees and that these elevated levels could persist for extended periods of time. At that time, we notified employees, embarked on an extensive program to reduce exposure levels, and began blood monitoring analyses. Employees have been kept advised on new developments and of blood test results.

We ask your cooperation with job reassignments and participation in a program for additional blood sampling.

We will inform you promptly as new information is obtained.

# # #

QUESTIONS AND ANSWERS

(To be used as needed to answer questions)

If there are any questions not answered below they should be referred to plant management.

Q01. How many female employees at your Parkersburg* plant may have been exposed to C-8?

A01. About (50)* worked in areas where there is potential for exposure.

Q02. Have you sampled the blood of these employees to determine if they have elevated organic fluoride levels?

A02. Some but not all employees have been sampled as part of our existing programs.

Q03. Do they have levels of C-8 above normal?

A03. Yes, some do.*

Q04. Are any of the fifty female employees pregnant?

A04. Yes, two that we know of.*

Q05. Are there any former employees you know of who may have been exposed to C-8 and who are now pregnant?

A05. Yes, one that we know of.*

Q06. What have you advised these pregnant women to do?

A06. We have advised these employees to consult the plant physician for an explanation of the potential risks and will have them consult also with their personal physician. The exact significance of the animal test results to the human offspring is yet unknown. However, we believe it prudent to eliminate any further exposure that results in blood levels greater than background until additional data are obtained.

*Adjust for other sites.

Q07. What is the background level?

A07. In our experience with blood tests conducted among employees with little chance for potential exposure, organic fluoride blood levels ranged up to 0.4 PPM.

Q08. Have you attempted to locate former female employees to advise them of the 3M Company's animal study which indicated that C-8 may be teratogenic?

A08. We are in the process of reviewing our employment records and where appropriate, former employees will be notified.

Q09. Do you have any knowledge of Du Pont employees or former employees who have been exposed to C-8 whose children suffered birth defects?

A09. We know of no evidence of birth defects caused by C-8 at Du Pont. In light of 3M results, we will investigate further.

Q10. Do you have any knowledge of 3M Company employees or former employees who have been exposed to C-8 whose children suffered birth defects?

A10. No. We are not knowledgeable of the pregnancy outcome of any 3M employees or former employees who were exposed to C-8.

Q11. What is the possibility that employees or former employees of childbearing age with elevated organic fluoride levels may give birth to children with defects?

A11. We do not know, but we are taking appropriate steps to avoid further exposure.

Q12. Is there any indication that male employees or former male employees exposed to C-8 may have suffered loss of reproductive function?

A12. We have no indication that C-8 has an effect on the male reproductive system or its function. The reproductive organs of the male laboratory animals exposed to C-8 were closely examined and were normal, with no evidence of abnormalities attributable to C-8 exposure.

Q13. Are there any tests that can assure the fetus is all right?

A13. There are no tests which can assure that the fetus is all right. There are tests which can detect fetal abnormalities in some cases.

Q14. What advice do we have for women of childbearing capability, who have been exposed, about becoming pregnant?

A14. This is a personal subject between the woman and her physician. Any questions of a personal nature will be handled on an individual basis.

Q15. Will elevated organic fluoride levels in the blood decrease in time?

A15. Yes.

Q16. How long does it take for these levels to fall to background levels?

A16. It is not known at this time. Blood sampling is continuing.

Q17. Can employees and former employees with elevated organic fluoride levels donate blood safely?

A17. Blood donating is a deferrable option. Persons who have e elevated blood levels of C-8 or who have worked in areas of potential exposure to C-8 and the blood level has not been determined should not donate blood until the blood level of C-8 returns to background levels.

Q18. Have you resampled employees' blood recently? *

A18. Yes, and we are taking additional samples in an ongoing program.

Q19. Were the levels lower in the recent blood samples? *

A19. So far there is no obvious trend with the data available.

Q20. Is there danger to the families of employees who work in the area?

A20. By following the established practices and procedures, use of personal protection equipment and following good personal hygiene practices, there should be no hazard to the employee's family.

*Adjust for other sites.

Q21. What operating procedures were instituted by Du Pont after the first 3M report in 1978?

A21. We increased use of personal protective equipment, instituted blood monitoring and air sampling programs, improved housekeeping and made certain equipment modifications. Additional engineering programs are under way.

Q22. What additional changes in operations procedures do you plan now?

A22. This has not been determined. We are reviewing the situation.

Q23. Are you looking for a substitute for C-8?

A23. Yes, we have been for some time.

Q24. What are the possible substitutes?

A24. We have not identified one at present.

Q25. Why did the 3M Company test C-8 for teratogenicity?

A25. We understand that C-8 is chemically similar to other compounds made by 3M and that in earlier testing were found to be teratogenic.

Q26. When did Du Pont learn of the latest study results?

A26. March 20, 1981.

Q27. Has the appropriate Federal regulatory agencies been notified?

A27. Yes. It is our understanding that 3M, our supplier, has notified EPA of the study and its results.

Q28. What were the birth defects noted by 3M in the unborn fetus?

A28. Eye defects are reported but complete testing will be required.

Q29. What additional animal testing is planned?

A29. C-8 teratology evaluations of laboratory animals to confirm 3M preliminary results will be conducted to identify a safe exposure level for females.

Q30. What is Du Pont's policy on employing women around embryotoxins?

A30. Women of childbearing capability are allowed to work in areas of potential exposure to teratogens where a safe exposure level is known and the exposures can be maintained below these levels. Women of childbearing capability are not allowed to work in areas where safe levels are not known or where the potential exposures are above safe levels. Women who are not of childbearing capability can work in areas of potential exposure to teratogens.

Q31. Has Du Pont ever required or suggested that an employee be sterilized?

A31. No.

Q32. Are there any other chemicals used at your Parkersburg plant that are embryotoxic?

A32. Yes. DMF (dimethyl formamide) and HFA (hexafluoroacetone).

Q33. Is there any problem involved with cookware which has been coated with fluorocarbon resin?

A33. No.

Q34. Will Du Pont be notifying its customers of the most recent findings reported by 3M?

A34. Yes.

Q35. Does Du Pont manufacture fluorinated surfactants at its Deepwater, New Jersey plant?

A35. Yes, but these are manufactured by different technology and are chemically different from C-8 (FC-143).

Q36. Is it possible that people working with fluoropolymer dispersions may be exposed to fluorinated surfactants and develop high blood fluoride levels?

A36. Du Pont employees working with fluoropolymer dispersion products have been tested and show normal background level of blood fluoride.

Q37. If sintered fluorocarbon products do not contain C-8, what happens to the C-8 during sintering or other heating operations?

A37. It is removed in processing.

Q38. Does Du Pont monitor airborne exposure levels?

A38. Yes.

Q39. Have women been removed from areas with potential for exposure at all Du Pont locations?

A39. Each site is taking appropriate action.

Final - 4/3/81

STANDBY STATEMENT
FC-143 EXPOSURE

We have been informed by the 3M Company about the results of a preliminary animal study involving the fluorosurfactant, ammonium perfluorooctanoate, also known as FC-143.

3M is our principal supplier for this chemical, which Du Pont uses in certain manufacturing processes.

We were advised that FC-143 caused defects in unborn rats when fed by stomach tube to female rats in a laboratory experiment. This was a preliminary study designed to determine dosage limits prior to a full-scale study on FC-143's potential to cause birth defects in rats.

We are considering all implications of the results of the preliminary 3M study. Additional test work is planned by 3M and Du Pont.

At this time we do not know the significance, if any, of this experiment as it relates to employees with potential for exposure. During the many years we have used FC-143, there has been no known evidence of adverse health effects from employee exposure.

As a safeguard, however, where appropriate, Du Pont has reassigned female employees of childbearing potential. Female employees of childbearing potential are not being reassigned at other locations where blood sampling and air monitoring indicate there is no cause for concern.

EID079450

# # #

NOTE: Dr. Bruce W. Karrh, of the Medical Division, will respond to media inquiries of a corporate medical nature. For inquiries to be addressed by Dr. Karrh, contact Roger R. Morris, Public Affairs (774-9561). For nonmedical inquiries of a corporate nature, contact John L. Stowell, Public Affairs (774-1843).

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Q01. At which Du Pont plants have you reassigned female employees to avoid potential exposure to FC-143?

A01. At Parkersburg, West Virginia, and Circleville, Ohio.

Q02. How many female employees have been reassigned at each plant?

A02. About 50 at Parkersburg and 1 at Circleville.

Q03. Are any of these employees pregnant?

A03. Yes, two that we know of at Parkersburg.

Q04. Are there any former employees you know of who may have been exposed to FC-143 and who are now pregnant?

A04. Yes, one that we know of at Parkersburg.

Q05. What have you advised these pregnant women to do?

A05. We have advised these employees at Parkersburg to consult the plant physician for an explanation of the potential risks and, if they wish, to consult also with their personal physician. The exact significance of the animal test results to human offspring is yet unknown, but we believe the likelihood of risk is small. However, we believe it is prudent to eliminate any further exposure until additional data are obtained.

Q06. Have you sampled the blood of these employees to determine if they have elevated organic fluorine levels?

A06. Some but not all female employees have had blood samples taken and analyzed as part of our existing program.

Q07. Do they have above-normal organic fluorine blood levels?

A07. Yes, some have above-background levels.

Q08. Have you attempted to locate former female employees to advise them of the 3M Company's animal study which indicated that FC-143 may be teratogenic?

A08. We are reviewing our employment records and, where appropriate, former employees will be notified.

Q09. Do you have any evidence that Du Pont employees or former employees who have been exposed to FC-143 have had children who suffered birth defects?

A09. We have no evidence of birth defects caused by FC-143 at Du Pont. In the light of the 3M study, we will investigate further.

Q10. Do you have any knowledge that 3M employees or former employees who have been exposed to FC-143 have had children who suffered birth defects?

A10. We are not aware of any adverse pregnancy outcomes among 3M employees or former employees with potential for exposure to FC-143.

Q11. What is the possibility that employees of childbearing potential with elevated organic fluorine levels may give birth to children with defects?

A11. There is very little likelihood that employees would bear children with defects due to exposure to FC-143, even if it

is a teratogen, because their exposure was at relatively low levels. However, until more facts are known about FC-143 and higher-than-background organic fluorine blood levels, we believe it is prudent to remove females of childbearing potential from the risk of potential exposure.

Q12. Is there any indication that male employees or former employees exposed to FC-143 may have suffered loss of reproductive function?

A12. We have no indication that FC-143 has an effect on the male reproductive system or its function. The reproductive organs of male laboratory animals exposed to FC-143 were examined and were normal, with no evidence of abnormalities attributable to FC-143 exposure.

Q13. Are there any tests that can assure the fetus is all right in the case of an expectant mother who was exposed to FC-143?

A13. There are no tests which can assure the fetus is all right. There are some tests which can detect fetal abnormalities in some cases.

Q14. What will you advise females of childbearing potential who have been exposed about becoming pregnant?

A14. This is a personal matter between the woman and her personal physician. Du Pont physicians will give full cooperation to employees' personal physicians. Any other matters of a personal nature will be handled on an individual, confidential basis.

Q15. What is the background level?

A15. In our experience with blood tests conducted among employees with little chance for potential exposure, organic fluorine blood levels have ranged from 0.0 parts per million to 0.4 ppm.

Q16. Will elevated organic fluorine levels in the blood decrease in time?

A16. Yes.

Q17. How long does it take for these blood levels to fall to background levels?

A17. We do not know at this time, but we believe the rate of decline is relatively slow.

Q18. Can employees and former employees with elevated organic fluorine blood levels donate blood safely?

A18. A person who has elevated organic fluorine blood level should not donate blood until the organic fluorine blood level returns to background levels. A person who has worked in an area of potential exposure to FC-143 and whose blood level has not been determined should not donate blood until the organic fluorine level has been determined to be no higher than background.

Q19. I understand an employee at the Parkersburg plant suffered a miscarriage. Was this related to FC-143 exposure?

A19. We have no information that indicates a higher risk of miscarriage due to exposure to FC-143.

Q20. Have you resampled employees' blood recently?

A20. Yes, we have and are taking additional samples in an ongoing program.

Q21. Were the levels lower in the recent blood samples?

A21. So far, there is no obvious trend, with the data available.

Q22. What operations procedures were changed by Du Pont after you first learned that exposed employees may have elevated organic fluorine blood levels?

A22. We increased the use of personal protective equipment, instituted blood monitoring and air sampling programs, improved housekeeping, and made certain equipment improvements. Additional engineering programs are under way.

Q23. What additional changes in operations procedures do you plan now?

A23. This has not been determined. We are reviewing the situation.

Q24. Are you looking for a substitute for FC-143?

A24. Yes.

Q25. What are the possible substitutes?

A25. We have not identified one at present.

Q26. Why did the 3M Company test FC-143 for teratogenicity?

A26. We understand FC-143 is chemically similar to other compounds made by 3M and that in earlier testing these other compounds (a perfluorosulfonic acid and a perfluoroalcohol) were found to be teratogenic.

Q27. What were the birth defects noted by 3M in the unborn fetus?

A27. Eye defects were noted, but complete testing will be required.

Q28. What additional animal testing is planned?

A28. FC-143 teratology evaluations of laboratory animals will be conducted to confirm results of the preliminary 3M study and to identify a safe exposure level for female employees of childbearing potential.

Q29. When did Du Pont learn of the preliminary teratology study results on FC-143?

A29. March 20, 1981.

Q30. Has the appropriate Federal regulatory agency been notified?

A30. It is our understanding that 3M, our supplier, has notified the Environmental Protection Agency of the study and its results.

Q31. What is Du Pont's policy on employing females around teratogens?

A31. Women of childbearing potential are allowed to work in areas of potential exposure to teratogens where a safe exposure level is known and the exposure can be maintained below these levels. Women of childbearing potential are not allowed to work in areas where safe levels are not known or where the

potential exposures are above safe levels. Women who are not of childbearing potential can work in areas of potential exposure to teratogens.

Q32. Has Du Pont ever required or suggested that an employee be sterilized?

A32. No.

Q33. Are there any other embryotoxic chemicals used at your Parkersburg plant?

A33. Yes. DMF (dimethyl formamide) and HFA (hexafluoroacetone).

Q34. How is FC-143 used at Du Pont?

A34. This is a water soluble compound used for its ability to modify the wettability of materials.

Q35. What products are made by Du Pont using FC-143?

A35. Various fluoropolymer resins, perfluoroelastomers, and polyimide films.

Q36. Is FC-143 found in any of these products as supplied to the marketplace?

A36. Yes, fluoropolymer dispersions contain up to one-half percent of FC-143.

Q37. What are uses for the dispersion?

A37. Fluoropolymer dispersions are used to coat various fibers and metals. In most but not all of the coating operations, the FC-143 is destroyed by a sintering process. Sintering is a

high-temperature curing process used in all fluoropolymer coating processes except in the manufacture of some fiber and fluoropolymer resin combinations.

Q38. Are there any applications where FC-143 is not destroyed?

A38. Yes, in packings, gaskets, and industrial filtration products.

Q39. Where are gaskets and packings used?

A39. We don't know all the places. However, we can assume that any operations where liquids are being transported might use pump packings, valve stem packings, and gaskets.

Q40. What industrial filtration products use dispersions?

A40. Some industrial power plants use filter bags to collect finely divided coal ash. Many filter bags are made of woven glass fibers coated with dispersions which are not sintered.

Q41. If packings and gaskets are used in systems to transport liquids, could they come into contact with liquids intended for human consumption?

A41. We believe most of the applications involving our dispersions in packings and gaskets are industrial operations. Du Pont does not recommend the use of unsintered dispersions in applications where the material would come into contact with food, beverages, or potable water.

Q42. You said Du Pont does not recommend such uses, but has the Company ever communicated this caution to customers?

A42. Yes. We advise customers orally and in writing that articles coated with fluoropolymer dispersions which are sintered should be in compliance with the Food and Drug Administration regulation (21 CFR 177.1550) for food contact. We advise customers that coatings that are not sintered will not comply with the FDA regulation.

Q43. Are any consumer products made and sold by Du Pont involved in this concern?

A43. No. Based upon our experience in monitoring the blood levels of our employees who work in areas where formulated products containing FC-143 are used, we do not believe there is cause for concern. For our industrial customers for fluoropolymer dispersions, we have communicated safe handling procedures for these materials. We will, of course, review this subject in greater depth and update our advice if further study warrants any changes in recommended procedures.

Q44. Is there any problem involved with cookware which has been coated with nonstick finish?

A44. No, since cookware coatings are sintered, thereby destroying the FC-143.

Q45. Will Du Pont be notifying its customers of the most recent findings reported by 3M?

A45. Yes.

Q46. Does Du Pont manufacture fluorinated surfactants at its Deepwater, New Jersey, plant?

A46. Yes, but these are manufactured by different technology and are chemically different from FC-143.

Q47. Is it possible that people using fluoropolymer dispersions may be exposed to FC-143 and develop elevated organic fluorine blood levels?

A47. Du Pont employees using fluoropolymer dispersion products who have been tested show no elevation over background levels.

Q48. Are there other manufacturers of products competing with and similar to fluoropolymer dispersions?

A48. Yes, both in the United States and in other countries.

Q49. Are they aware of the 3M study of FC-143?

A49. We have suggested to 3M that it advise all of its FC-143 customers.

Q50. Is FC-143 used in the manufacture of fluoropolymer resins at any Du Pont plants other than Parkersburg?

A50. Yes, at Dordrecht, The Netherlands, and at a joint venture, Mitsui Fluorochemicals Company, Ltd., in Japan, which is managed by our Japanese partner.

Q51. Are female employees at Dordrecht and in Japan being reassigned or relocated?

A51. There are no female employees at Dordrecht who have the potential for exposure to FC-143. We are advising our Japanese partner for appropriate action.

Q52. Are there other Du Pont plants where FC-143 is used?

A52. (NOTE: Plant managers should mention only their sites and refer media inquiries of a corporate nature involving other sites to Public Affairs.)

Small quantities of FC-143 or FC-143-containing materials are used at the Chambers Works in Deepwater; Germay Park, Chestnut Run, and the Experimental Station in Wilmington, Delaware; Philadelphia; Toledo, Ohio; Parlin, New Jersey; Fairfield, Connecticut; Richmond, Virginia; Brevard, North Carolina; Rochester, New York; Mechelen, Belgium; and Ajax, Canada.

Q53. Why haven't you reassigned female employees of childbearing potential at these sites?

A53. Some of these sites do not employ females in areas of potential exposure to FC-143. In other instances, Du Pont employees using fluoropolymer dispersion products who have been tested show no elevation of organic fluorine blood levels above background.

# # #

JLStowell:asj

cc: R. [illegible] RICHARDS, JR.
J. C. BESPERKA
J. R. GIBSON - ADMIN.

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

POLYMER PRODUCTS DEPARTMENT

March 31, 1981

J. T. SMITH/N. J. IRSCH
W. R. DE GRAW/M. ROCCONI
H. E. SERENBETZ/J. W. RAINES
F. N. ARONHALT/E. D. CHAMPNEY
F. E. FRENCH/A. B. PALMER - C&P
A. L. DADE/W. R. HENDRIX - F&F
R. L. RHODES/A. A. WRIGHT - TF
A. C. HAVEN - INTL
G. A. HAPKA - LEGAL
B. C. MC KUSICK - CR&D
B. W. KARRH - ER
J. L. STOWELL - PA

FC-143 COMMUNICATIONS & COORDINATION COMMITTEE

Following are the committee members:

DEPT.	NAME
PPD	J. T. Smith
	N. J. Irsch
	W. R. DeGraw
	W. K. Nace
	H. E. Serenbetz
	J. W. Raines
	F. N. Aronhalt
	E. D. Champney
C&P	F. E. French
	A. B. Palmer
F&F	A. L. Dade
	W. C. Haaf
FIBR	R. L. Rhodes
	A. A. Wright
INTL	A. C. Haven
LEGAL	G. A. Hapka
CR&D	B. C. McKusick
ER	B. W. Karrh
PA	J. L. Stowell

This committee will meet each day at 10:00 a.m. in D-12015 to review status.

Industrial Department Committee members will direct all questions to Walt Raines (in his absence, H. E. Serenbetz) for documentation and development of consistent answers. He will keep all committee members informed.

AJP002632

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There's a world of things we're doing something about

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J. L. Stowell will be prime advisor on media related questions. However, such questions and answers should also be communicated to J. W. Raines.

Dr. B. W. Karrh will serve as the corporate spokesperson for all medical questions.

Each site should designate a principal spokesperson to avoid conflicting comments.

J. W. RAINES
ENERGY & ENVIRONMENTAL AFFAIRS
MANUFACTURING DIVISION

JWR:ldr

Z-69 REV 12-79

DUPONT

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

POLYMER PRODUCTS DEPARTMENT
PERSONAL & CONFIDENTIAL

CC: W. VAN HOEVEN - F&F
J. B. RHODES - TFD

April 1, 1981

FPD PERSONNEL

CUSTOMER ADVISORY LETTER -
AMMONIUM PERFLUOROOCTANOATE

The enclosed letter is being mailed to all domestic customers (List 5062) on Thursday, April 2.

The purpose is to advise our customers of experimental findings obtained by the 3M Company on the surfactant used in the manufacture of our fluoropolymer resins and dispersions. The information supplied by 3M has resulted in the reassignment of female personnel located in our direct resin manufacturing areas.

The information obtained to date indicates that our customers who use resins and dispersions in subsequent processing steps should continue to follow their existing good manufacturing procedures.

All questions or inquiries which may be generated as a result of this advisory letter should be referred to:

F. N. Aronhalt (774-6349)

or in my absence:

R. W. Moore (774-7387)
R. H. Geuder (774-1288)

F. N. ARONHALT
NATIONAL SALES MANAGER
FLUOROPOLYMERS DIVISION

FNA:dfa
Enclosure

AJP002634

EID079464

DUPONT
ESTABLISHED 1802
E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

POLYMER PRODUCTS DEPARTMENT

April 2, 1981

Dear Customer:

On March 20, 1981, the 3M Company, our supplier of the surfactant ammonium perfluorooctanoate, also known as FC-143, advised us that this material has been found to cause birth defects in the unborn when fed by stomach tubes to female rats in a laboratory experiment. Du Pont uses FC-143 in the manufacture of most of its fluoropolymer resins.

Much more testing must be conducted to determine the significance of the 3M experiment. As part of the ongoing program to determine the safety of our materials, both Du Pont's Haskell Laboratory and 3M are now planning more detailed experiments.

With the exception of aqueous dispersions, there is no significant residual FC-143 in any of the fluoropolymer resins which we sell. Aqueous dispersions may contain up to 0.45% by weight FC-143. Analysis of the organic fluorine content in the blood of Du Pont personnel who use aqueous dispersions in fabricating finished products shows no elevation over typical levels measured in non-exposed employees. Female personnel in these areas are not being reassigned. However, we have taken the precaution of reassigning female personnel in the areas where our resins are manufactured and FC-143 itself is handled.

At this time, if you are following the Safe Handling Procedures previously given to you, it does not appear that changes in your processing operations are warranted. We do recommend that you continue to follow the Safe Handling Procedures (attached). Further studies are being conducted and we will advise you if there are any changes in our recommendations.

Should you have any questions, please contact us at your convenience.

Yours very truly,

Frank N. Aronhalt
National Sales Manager
Fluoropolymers Division

FNA:dfa

AJP002635

EID079465

DRAFT OF LETTER TO CUSTOMERS OF:

Textile Fibers - Products containing Teflon® dispersions in an unsintered state.

April 2, 1981

Dear

On March 20, 1981, the 3M Company, our supplier of the surfactant ammonium perfluorooctanoate (FC-143), advised us the material has been found to cause birth defects when fed by stomach tube to female rats in a laboratory experiment. Du Pont has used FC-143 in the manufacture of its fluoropolymer resins for many years and has not experienced any known human-related problems. Our manufacturing process is such that only the fluoropolymer dispersions contain any residual FC-143, ~ 0.45% by weight.

These dispersions are used as impregnants in the family of Teflon® and Kevlar® packing yarns sold by Du Pont. Residual levels of FC-143 are present in these packing yarns. Other forms of Teflon® fiber are not known to contain residual FC-143.

As part of Du Pont's ongoing program for determining the safety of the materials used in the manufacture of or contained in the products we sell, we have been monitoring the organic fluorine content of the blood of the personnel involved with producing fibers. Our findings are:

At Du Pont's facilities which use fluoropolymer dispersions containing FC-143 in a manner similar to yours, we have found no elevation of the organic fluorine content over that of unexposed people.

We intend to conduct more testing to determine the significance of the 3M experiment as it relates to our employee exposure and the products we sell. We have reviewed our procedures for handling fluoropolymer dispersions in our plants and plan no changes.

At this point in time, it does not appear to us that changes in your operations are warranted when handling impregnated packings. We will keep you informed of any further developments.

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

FABRICS & FINISHES DEPARTMENT

April 1, 1981

Dear Sir:

As part of Du Pont's ongoing program to survey the safety of all our materials, we think you should be advised of a March 20, 1981 announcement from the 3M Company, our surfactant supplier. 3M informed us that based on preliminary laboratory experiments involving a pure surfactant, birth defects resulted when fed to female rats. This surfactant is used at low concentrations by Du Pont to manufacture fluoropolymers which, in turn, are one of the components in our non-stick finishes.

In-depth investigation of the presence of this surfactant in coatings determined that the 3M surfactant was destroyed at normal curing temperatures and no detectable residue remained. As such, your coated products pose no health hazards to your customers.

If you are following our recommended "Safe Handling Practices" guide, changes in your manufacturing operations are not required. A copy of the guide is attached. Changes may be advisable if you are not following these recommended practices and our representatives will be available to discuss them with you.

Should you have any questions, please contact us at your convenience.

Very truly yours,

Richard M. Gray
Sales Manager
TEFLON® FINISHES

RMG:crj

© TEFLON is Du Pont's registered trademark.

EID079468

AJP002638

FF-3136 REV. 10-63

DU PONT
ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

FABRICS & FINISHES DEPARTMENT

April 3, 1981

Dear Mr. President:

The 3M Company recently told us that a fluorosurfactant (FC-143) we buy from 3M has caused birth defects in rats in a laboratory test. This product is a minor (less than 0.5 percent) ingredient in dispersions used to make our impregnated fluorocarbon felt.

It is our belief that the FC-143 is destroyed in the normal heat treatment of our impregnated felts. We are now testing to see if any residue of the compound can be detected in our finished product. We will let you know as soon as we get definitive results.

Sincerely,

MIKE COCO
SALES MANAGER - INDUSTRIAL
ELECTRONIC/INDUSTRIAL
COMPOSITES & COATINGS
SPECIALTY PRODUCTS DIVISION

MC/sew

AJP002639

EID079469

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

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ATTACHMENT V

WASHINGTON WORKS
PROPOSED COMMUNICATION TO FEMALES WHO HAD WORKED IN FLUOROPOLYMERS AREA

As follow-up to our original communication on C-8 (FC-143) we have some additional information pertaining to questions that have been asked. This is in accord with our practice of keeping you informed in such matters as new information is obtained.

There have been rumors that two women who worked in Fluoropolymers have had children with birth defects. We are not aware of any human birth defects attributable to FC-143. We do know of two women who worked in this area before or during pregnancy whose children reportedly had defects detected at birth. We became aware of this information after 3M notified us of the animal study. We do not know whether there is a relationship. We are investigating this matter further, and we are considering additional studies.

Some employees have asked what advice we have for female employees of childbearing potential who have been exposed to FC-143 about becoming pregnant. Until we have additional information about the potential effects of FC-143 on the human fetus, we think this is a matter of sufficient concern that, as a precaution, a female who has an organic fluorine blood level above background level should consult with her personal physician prior to contemplating pregnancy. We will provide all information we have on FC-143 to employees' personal physicians.

Another question is what we have told female employees who have mentioned they are considering voluntary sterilization. The plant physician and area supervision have told them that we strongly recommend against sterilization for job-related reasons. Each woman who raised this subject has been told that her employment, her seniority, her pay, and her benefits are fully protected and that there was no need to even consider a surgical procedure. The women were told that whether or not they elected such surgery was a personal matter that would have to be decided by them in consultation with their husbands and their personal physicians.

/djp
4/9/81

Z-40 REV 3-79

DUPONT

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

POLYMER PRODUCTS DEPARTMENT

April 14, 1981

PERSONAL & CONFIDENTIAL

R. E. DREXEL
E. D. BOELTER
I. A. LUNDGAARD
R. L. RICHARDS, JR.
J. C. BESPERKA
J. T. SMITH
W. R. DE GRAW/M. ROCCONI
P. J. MEYERS
H. E. SERENBETZ
J. W. RAINES
R. D. INGALLS
F. N. ARONHALT
E. D. CHAMPNEY
J. A. BLUMBERG
H. A. SMITH
L. F. PERCIVAL
D. C. SANDERS
M. A. SMOOK - CHS-314
J. H. TODD - WASH. WKS.
H. F. CANFIELD - CIRCLEVILLE
J. F. GLEITZ - GERMAY PARK
B. W. MELVIN - CHESTNUT RUN
J. R. GIBSON - ADMIN
W. E. TATUM - ADMIN
J. F. SCHMUTZ - LEGAL
G. A. HAPKA - LEGAL
C. D. DE MARTINO - ER
B. W. KARRH - ER
R. P. MC CUEN - PA
J. L. STOWELL - PA
B. C. MC KUSICK - CR&D
A. L. DADE - F&F
W. R. HENDRIX - F&F
F. E. FRENCH - C&P
R. H. RHODES - FIBR
A. A. WRIGHT - FIBR
A. C. HAVEN - INTL
W. G. MIKELL - EXP. STATION
A. B. PALMER - C&P
C. C. GRIFFITH - PHOTO
W. C. EVANS - DORDRECHT
H. G. DRINKWATER - GENEVA
C. D. ROBINSON - GENEVA

C-8 PERFLUOROOCTANOATE

Attached are; (1) the final Supplemental Standby Questions and Answers prepared to address additional media questions that may arise from (2) the Supplemental Employee Communication currently underway at Washington Works.

N. J. Irsch
Manufacturing Division

NJI:adw
Attachment

AJP002641

EID079471

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Final Draft - 4/13/81

Approved for use
11:ff 4/14

SUPPLEMENTAL STANDBY Q&As

FC-143 EXPOSURE

(NOTE: These Q&As are supplemental to the final standby of 4/3/81. They address additional questions that may arise from a supplemental communication to Washington Works employees.)

Q01. Is it true that two women who worked in the FC-143 area at your Parkersburg plant have had children with birth defects?

A01. We are not aware of any human birth defects attributable to ammonium perfluorooctanoate, also known as FC-143. We do know of two women who worked in this area before or during pregnancy whose children reportedly had defects detected at birth. We do not know whether there is a relationship. We are investigating this matter further, and we are considering additional studies.

Q02. Can you be more specific about these two defects?

A02. (Refer question to Dr. Bruce W. Karrh of the Medical Division.)

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Q03. What have you told female employees who have mentioned they were considering sterilization?

A03. The plant physician has told them that we strongly recommend against sterilization for job-related reasons. Each woman who raised this subject was told that her employment, her pay rate, her seniority, and her benefits would be fully protected and there was no need even to consider a surgical procedure. The women were told that whether or not they elected such surgery was a personal matter that would have to be decided by them in consultation with their husbands and their personal physicians.

Q04. Despite these assurances, did any of the female employees who were reassigned from the FC-143 area subsequently decide to be sterilized?

A04. Yes, a few did at Parkersburg. This was their personal decision. I emphasize that each had been told individually that we strongly recommend against sterilization for job-related reasons because it was not necessary.

Q05. How many exactly?

A05. Four.

Q06. What happened to the women who decided to be sterilized?

A06. Each of them had the option of either accepting reassignment to another job with the same pay at the plant or returning to her previous work assignment.

Q07. Are there any other female employees who were reassigned from the FC-143 area who in retrospect were not of childbearing potential?

A07. Yes, we have been told by our plant physician that some women in this area later presented evidence that they were not of childbearing potential at the time of the reassignment. They also had the option of accepting reassignment or returning to their previous jobs.

Q08. How many exactly?

A08. Nine.

Q09. Will you give me the names of the women who chose sterilization?

A09. No. To do so would be an invasion of their privacy.

Q10. What will you advise female employees of childbearing potential about becoming pregnant if they potentially were exposed to FC-143?

A10. As a precaution, a female who has an organic fluorine blood level above the background level should consult with her personal physician prior to contemplating pregnancy. Until we have additional information about the potential effects of FC-143 on the human fetus, we think this is a necessary precaution. We will provide all information we possess about FC-143 to employees' personal physicians to aid in this decision.

Q11. What products are involved with FC-143?

A11. (NOTE: This response should be used only in response to a question that mentions the trademark, "Teflon". A general question can be answered by A35 through A44 of the 4/3/81 standby.)

FC-143 is made by several different companies in the manufacture of a variety of fluoropolymer dispersions, including some of Du Pont's "Teflon" products. Any Du Pont fluoropolymer dispersion used in consumer products goes through a process that destroys FC-143, with the possible exception of some plumbing packing materials.

# # #

Q: J. T. SMITH - VIA [illegible]
PPD)
D12008 - WILM.)

WASHINGTON WORKS
PROPOSED COMMUNICATION TO FEMALES
WHO HAD WORKED IN FLUOROPOLYMERS AREA

As follow-up to our original communication on C-8 (FC-143) we have some additional information pertaining to questions that have been asked. This is in accord with our practice of keeping you informed in such matters as new information is obtained.

There have been rumors that two women who worked in Fluoropolymers have had children with birth defects. We are not aware of any human birth defects attributable to FC-143. We do know of two woman who worked in this area before or during pregnancy whose children reportedly had defects detected at birth. We became aware of this information after 3M notified us of the animal study. We do not know whether there is a relationship. We are investigating this matter further, and we are considering additional studies.

Some employees have asked what advice we have for female employees of childbearing potential who have been exposed to FC-143 about becoming pregnant. Until we have additional information about the potential effects of FC-143 on the human fetus, we think this is a matter of sufficient concern that, as a precaution, a female who has an organic fluorine blood level above background level should consult with her personal physician prior to contemplating pregnancy. We will provide all information we have on FC-143 to employees' personal physicians.

Another question is what we have told female employees who have mentioned they are considering voluntary sterilization. The plant physician and area supervision have told them that we strongly recommend against sterilization for job-related reasons. Each woman who raised this subject has been told that her employment, her seniority, her pay, and her benefits are fully protected and that there was no need to even consider a surgical procedure. The women were told that whether or not they elected such surgery was a personal matter that would have to be decided by them in consultation with their husbands and their personal physicians.

/djp
4/9/81

AJP002646

EID079476

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ATTACHMENT VII

SUPERVISORY INFORMATION MANUAL
INDEX 2

April 15, 1981

TO: ALL SUPERVISION

PERSONNEL MOVEMENT

As a result of the need to move some TEFLON® females to other divisions, the following guidelines have been developed.

Please communicate the guidelines to all wage roll employees reporting to you.

I. Required Moves From TEFLON®

- Females who do not have Medical approval to stay will be required to bid on Gatehouse Posting as though they were demoted from their Group.
- These employees are to fill out the following on the Gatehouse Bid Card:
  1. Mark block "I am required to bid"
  2. Number all Groups except TEFLON®
  3. Number all shifts

II. Who May Bid To TEFLON®

- Only male employees or female employees of non-childbearing capability will be allowed to move to TEFLON®.
- Female employees must have approval from the Medical Division by end of Gatehouse posting period to be considered.

III. Vacancies To Be Posted At Gatehouse 4/20/81

- TEFLON® - 16 Replacements
- Filaments - 8 New vacancies
- LUCITE® - 4 New vacancies
- Power & Services - 1 New vacancy

BUTACITE® and C&P will be taking a reduction of force of one each.

AJP002647

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IV. Gatehouse Bidding Procedures

A. General

- Sixteen TEFLON® females will be required to bid from TEFLON®.
- One BUTACITE® and one C&P employee will be required to bid because of a reduction of force.
- Normal Gatehouse bidding procedures will be followed except in the case not enough qualified employees bid voluntarily to TEFLON® to fill vacancies.

B. Moves Required To Fill Remaining TEFLON® Vacancies

- If TEFLON® vacancies are not filled voluntarily by qualified bidders or qualified Utility Pool employees, least senior Plant Service male Group employees will be required to move to TEFLON®.

- If Gatehouse Bid Cards have not been entered by least senior male Group employees required to move to TEFLON®, shift preferences will be taken from their Group Job Request cards based on most desired shift Job indicated.

- Least senior male Group employees who may be required to move to TEFLON® should enter a Gatehouse Bid Card listing shift preferences if different than ones listed on their Group Job Request Cards.

V. Group Service For TEFLON® Females Required To Move From TEFLON®

- TEFLON® females required to move to other divisions will use either their TEFLON® Group Service or prior Group Service in their new division within last three years, whichever is greater, as their Group Service in new division for Group bidding purposes.

- Acutal Group Service will start at "zero" unless prior Group Service in new division. Actual Group Service will be used if she bids out of her new division and later bids back per "Green Book" procedure.

VI. Scheduled Vacations For TEFLON® Females

- Vacation selections previously made by TEFLON® females required to move to other divisions will be honored.

- If TEFLON® females change shifts in moving to other divisions, they will be allowed to take a "first choice" vacation period (any number of consecutive workdays). Any other vacation days rescheduled must follow division procedures.

VII. Pay Protection For TEFLON® Females

- TEFLON® females currently above Zone IV who are required to move to other divisions will have their rate of pay protected in their new division until:

  1. They have seniority to be a successful bidder on an equivalent Zone Job.
  2. They voluntarily bid out of new division, or
  3. They are involved in a reduction of force to the Utility Pool.

In each case, employee pay rate will be downgraded per "Green Book" procedure.

VIII. Timing Of Personnel Moves

- All moves resulting from Gatehouse Posting will be made immediately.

If you have any questions about the above guidelines, please call C. E. Allman (4258) or E. M. Bond (4304).

EMPLOYEE RELATIONS DEPARTMENT

O.T.

EMB:jsh

AJP002649

EID079479

ATTACHMENT VIII

Z-40 REV 12-79

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE 19898

POLYMER PRODUCTS DEPARTMENT

cc: J. T. Smith/N. J. Irsch
W. R. DeGraw/M. Rocconi
H. E. Serenbetz/J. W. Raines
F. N. Aronhalt/E. D. Champney
F. E. French/A. B. Palmer, C&P
A. L. Dade/W. R. Hendrix, F&F
R. L. Rhodes/A. A. Wright, TF
A. C. Haven, Intl
G. A. Hapka, Legal
B. C. McKusick, CR&D
B. W. Karrh, ER
J. L. Stowell, PA

May 4, 1981

PERSONAL AND CONFIDENTIAL

J. H. TODD
WASHINGTON WORKS

BLOOD SAMPLING RESULTS
COMMUNICATIONS

Results are available from blood sampling of Washington Works personnel. As you have indicated, employees should be informed of the results promptly.

Outlined below is the recommended method and content of the communication:

Supervision will pass out envelopes from Plant Medical containing a card with the results.

When the results are given to females of childbearing capability who were reassigned or relocated from the fluorocarbons area, they will be encouraged to talk with the plant physician who will be available to consult with them. It is anticipated that this would begin Wednesday. The plant physician will advise them again that we do not know the significance of the preliminary animal exposure as it relates to human exposure, but that a program has been started at Haskell Laboratory. Results will be available in several months. He will advise them that if they are contemplating pregnancy, they should consult with their own physician, and that they ask their physician to contact the Du Pont plant physician.

The plant physician will contact selected physicians in the community using the attached communication as a guide. Essentially, this communication advises that as a precaution, prégnancy be deferred until there is additional information.

AJP002650

EID079480

For males and females of non-childbearing potential, their supervision will pass along the envelopes with the blood analyses as in the past, with the offer that consultation with the plant physician will be arranged if the employee desires it.

We understand that the plant feels that no further advice need be given relative to donating blood. Previous communications with employees have covered this subject satisfactorily.

R. D. INGALLS
ENERGY & ENVIRONMENTAL AFFAIRS
MANUFACTURING DIVISION

RDI/is
Attachment

WASHINGTON WORKS

PLANT PHYSICIANS' COMMUNICATION TO COMMUNITY PHYSICIANS

On March 20, 1981, we were advised by the 3M Company that FC-143, or Ammonium Perfluorooctanoate, caused birth defects in the unborn when fed by stomach tubes to female rats in a laboratory experiment. The defects noted were lenticular opacities in fetuses of the exposed animals. 3M is our prime supplier for this chemical. This was a preliminary study designed to determine dosage limits prior to a full-scale study on FC-143's potential to cause birth defects in rats.

At this time, we do not know the significance, if any, of the preliminary animal exposure as it may relate to employee exposure. Further studies are planned to define possible reproductive effects.

As a precaution, we removed all female employees of childbearing capability from areas where there was a potential for significant exposure to FC-143.

During the period that FC-143 has been used at Washington Works, there has been no known evidence that our employees have been exposed to levels posing an adverse health effect. At exposure levels experienced by our employees, there is no evidence to suggest there is any impairment to the male reproductive functions.

Some of our employees have asked what advice we have for female employees of childbearing capability who have been exposed to FC-143 about becoming pregnant. Until we have additional information about the effects of FC-143 on the human fetus, we think that under some conditions, it may be prudent for a female employee who has had jobs in which there was significant potential for exposure to FC-143 (those that have just been reassigned) to defer pregnancy. However, there are many factors to be considered in such a decision. We would be glad to discuss each individual case with you if you desire.

We believe levels of exposure have been safe, but we want to confirm that. We do know that FC-143 can be detected at low levels in the blood of our employees who have exposure potential to this material, and that these elevated blood levels decrease with time.

Since this information may change as test results are obtained, please call me so you can obtain the latest information before you advise patients.

RDI:tps
5/4/81

ATTACHMENT IX

G-428 REV. 6/75

DUPONT

E X A M P L E

PERSONAL AND CONFIDENTIAL
EMPLOYEE/APPLICANT COPY

PHYSICAL EXAMINATION

TO: N A M E (P.R. #)

ADDRESS: _____

DATE	TIME
5/6/81	
MEDICAL EXAMINER	

A report of your examination will be sent to your personal physician if you request.

_____
(Authorized By)

PHYSICAL EXAMINATION REPORT

☐ We have no recommendations to make at this time, other than any made at the time of the examination.

☐ Please note the following. April 1981 blood sample had ( ) ppm organic fluorine (measured as C-8).

If you have any questions, please have your supervision make an appointment for you to see Y. L. Power, M.D.

We will be glad to discuss this subject with you.

_____ M.D.
EXAMINER

AJP002654

EID079484

000084

ATTACHMENT X

(Supernate letter to Chemical Waste Management, 6/9/81)

BCC: D. K. Duncan, Wilmington
C. L. Hoover, E&M
B. J. Reilly, Legal
P. A. Palmer, Louviers
J. H. Todd/G. T. Rosenlund
R. J. Burger/C. R. Campbell
W. T. Darnell/T. L. Schrenk
R. N. Taylor
J. F. Doughty
P. Thistleton
In Turn:
W. A. Bower
D. D. Dalton
A. R. Stoltenberg
H. D. Ramsey
R. E. Hansel
J. J. DiNicola

/hcw
1301A

AJP002655

EID079485

000085

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
P. O. Box 1217
PARKERSBURG, W. VA. 26101

POLYMER PRODUCTS DEPARTMENT

June 9, 1981

Chemical Waste Management
c/o Ohio Liquid Disposal, Inc.
504 Liberty Street
Fremont, Ohio 43420

Gentlemen:

The purpose of this letter is to provide toxicity information on one of the ingredients contained in the supernate liquid waste which you handle for this plant.

The 3M Company, supplier of the surfactant ammonium perfluoro-octanoate, also known as FC-143, has advised us that this material has been found to cause defects in the unborn when fed by stomach tubes to female rats in a laboratory experiment. This surfactant is used in the manufacture of fluoropolymer resins and is present at a concentration of approximately 0.1 to 0.3% in the supernate waste which you handle. Much more testing must be conducted to determine the significance of the 3M experiment. As part of the ongoing program to determine the safety of our materials, both Du Pont's Haskell Laboratory and 3M are now planning detailed experiments. Analysis of the organic fluorine content in the blood of Du Pont personnel who fabricate finished products using the dispersions which contain this ingredient show no elevation over typical levels measured in non-exposed employees. Female personnel of childbearing capability who worked in areas where the resins containing the ingredient are manufactured or the ingredient is handled have been reassigned to other work areas.

Our product bulletins caution that skin contact should be avoided with dispersion containing the surfactant and the material should be washed off with water if splashed on the skin. Eye protection should be used and if splashed in the eyes should be flushed out with water and medical attention sought to insure that the material has been removed. These precautions are advised in handling the waste.

Since the supernate is loaded and unloaded outdoors, no special ventilation should be required. Breathing waste vapors when opening the loading hatch, inspecting the liquid level, etc., should be avoided.

The Waste Characterization Forms outlining the properties of this waste have been changed to include these cautions and are attached. Please sign and return two copies of this letter where indicated under accepted.

If you have any questions concerning this information or need additional information, please call me at 863-4271.

Very truly yours,

A. C. Huston
Environmental Control Consultant
Washington Works

Accepted: Chemical Waste Management
c/o Ohio Liquid Disposal, Inc.
504 Liberty Street
Fremont, Ohio 43420

_____

_____

ACH:hcw
Attachment
1301A

AJP002657

EID079487

000087

WASTE CHARACTERIZATION — DuPont - Washington Works

DU PONT CODE: DUP 10T

I. LOCATION: Washington Works APPROVED Date 6/10/81

CONTRACTOR'S CODE:

EPA I.D.#: WVD045875291

EPA CODES: None

OTHER CODES:

II. NAME OF WASTE: Supernate

III. COMPOSITION

A. MAJOR COMPONENTS	C. ONE TIME OR TYPICAL ANALYSIS	D. CONCENTRATION RANGE % UPPER	D. CONCENTRATION RANGE % LOWER	E. EXPOSURE LIMITS +ACGIH	E. EXPOSURE LIMITS ++OSHA
1. Water	94.3	98.0	90.0		
2. TRITON®	4.7	6.0	1.5		
3. TEFLON®	1.0	4.0	0.5		
4.					
5.					

B. TRACE COMPONENTS NOT LISTED ABOVE (PPM)

CN		Ag		As		Ba	X	
Cd		Cr		Cu		Hg		
Ni		Pb		Se		Zn	X	
S*		Cl*		N*		P*		
F**	X	I*						

OTHER: Ammonium Hydroxide, Citric Acid, Duponol, C-8 (ammonium perfluorooctanoate)**, Glass Beads, Sodium Hydroxide

IV. PHYSICAL STATE @ 25°C (CIRCLE): SOLID (LIQUID) SLUDGE LIQUID/SOLID PHASES GAS

OTHER: TEFLON® sludge formation is time dependent and redispersible.

SOLIDS : IS THERE A DUSTING HAZARD IF CONTAINERS ARE OPENED? No

LIQUIDS : MULTIPLE PHASES? No VOLS OF EACH PHASE

LIQUIDS & SLUDGES : CAN THE WASTE BE PUMPED? Yes POURED? Yes

LIQUID/SOLID PHASES: % FREE FLOWING LIQUID LAYER (VOLUME %)

GASES : PRESSURE OF CONTAINER PSIG

V. CONTAINMENT (CIRCLE)

(BULK) MC 304, MC 307 MC 312

55-GAL. STEEL DRUMS (DOT)

30-GAL. FIBER DRUMS (DOT)

5-GAL. PAILS

OTHER

APPROX. WT. PER CONTAINER 45,000 LBS.

VI. PROPERTIES (CIRCLE)

COMBUSTIBLE (FP °F) (CLOSED CUP) IGNITABLE (FP °F) (CLOSED CUP)

CORROSIVE OSHA CARCINOGEN

pH 10 ODOR (YES) NO) Ammonia

Btu/LB. COLOR

REACTIVE

TOXIC See remarks below

OTHER

VII. D.O.T. SHIPPING NAME: Process Water (Spent)

D.O.T. HAZARD CLASSIFICATION: Not Regulated

U.N. NO. N.A. NO.

VIII. VOLUME (FOR PLANNING PURPOSES ONLY)

THIS REQUEST

ANNUAL

IX. REMARKS: **Special health considerations are noted on attached sheet.

*Organically bound only

Rev. 2/81

AJP002658

EID079488

000088

ATTACHMENT TO WCF DUP 10T

SUPERNATE - DUP-10T WASTE

The 3M Company, supplier of the surfactant ammonium perfluoro-octanoate, also known as FC-143, has advised us that this material has been found to cause defects in the unborn when fed by stomach tubes to female rats in a laboratory experiment. This surfactant is used in the manufacture of fluoropolymer resins and is present at a concentration of approximately 0.1 to 0.3% in the supernate waste which you handle. Much more testing must be conducted to determine the significance of the 3M experiment. As part of the ongoing program to determine the safety of our materials, both Du Pont's Haskell Laboratory and 3M are now planning detailed experiments. Analysis of the organic fluorine content in the blood of Du Pont personnel who fabricate finished products using the dispersions which contain this ingredient show no elevation over typical levels measured in non-exposed employees. Female personnel of childbearing capability who worked in areas where the resins containing the ingredient are manufactured or the ingredient is handled have been reassigned to other work areas.

Our product bulletins caution that skin contact should be avoided with dispersion containing the surfactant and the material should be washed off with water if splashed on the skin. Eye protection should be used and if splashed in the eyes should be flushed out with water and medical attention sought to insure that the material has been removed. These precautions are advised in handling the waste.

Since the supernate is loaded and unloaded outdoors, no special ventilation should be required. Breathing waste vapors when opening the loading hatch, inspecting the liquid level, etc., should be avoided.

/hcw
1313A

ATTACHMENT XI

(Letter, A. C. Huston to Carl G. Beard II, June 9, 1981)

BCC: D. K. Duncan, Wilmington
B. J. Reilly, Legal
R. I. Wevodau, Louviers
J. H. Todd/G. T. Rosenlund
R. J. Burger/C. R. Campbell
W. T. Darnell/T. L. Schrenk
R. N. Taylor
J. F. Doughty
P. Thistleton
In Turn:
W. A. Bower
D. D. Dalton
A. R. Stoltenberg
H. D. Ramsey
R. E. Hansel
J. J. DiNicola

/hcw
1303A

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
P. O. Box 1217
PARKERSBURG, W. VA. 26101

POLYMER PRODUCTS DEPARTMENT

June 9, 1981

CERTIFIED MAIL -
RETURN RECEIPT REQUESTED

Mr. Carl G. Beard II, Director
W. Va. Air Pollution Control Commission
1558 Washington Street, East
Charleston, West Virginia 25311

Dear Mr. Beard:

This letter is to inform you of toxicity information we have received from our supplier of the surfactant ammonium perfluorooctanoate, also known as FC-143, which is present in small quantities in eight vents from our fluoropolymers processes. The total venting of this material is about 1¼ pounds per hour. The 3M Company has advised us that this material has been found to cause defects in the unborn when fed by stomach tubes to female rats in a preliminary laboratory experiment.

Much more testing must be conducted to determine the significance of the 3M experiment. As part of the ongoing program to determine the safety of our materials, both Du Pont's Haskell Laboratory and 3M are now planning more detailed experiments. However, we have taken the precaution of reassigning female personnel of childbearing capability to areas outside those in which fluoropolymer resins are manufactured or FC-143 is handled.

At this time, we do not know the significance, if any, of the preliminary animal experiment. FC-143 has been in use for decades without apparent adverse affects in humans.

If you need any additional information, please let me know.

Very truly yours,

A. C. Huston
Environmental Control Consultant
Washington Works

ACH:hcw
1303A (N)

AJP002661

EID079491

000091

ATTACHMENT XII

(C-8 Letter to David W. Robinson from A. C. Huston, June 9, 1981)

BCC: D. K. Duncan, Wilmington
B. J. Reilly, Legal
R. F. Rocheleau, Louviers
J. H. Todd/G. T. Rosenlund
R. J. Burger/C. R. Campbell
W. T. Darnell/T. L. Schrenk
R. N. Taylor
J. F. Doughty
P. Thistleton
In Turn:
W. A. Bower
D. D. Dalton
A. R. Stoltenberg
H. D. Ramsey
J. J. DiNicola
R. E. Hansel

/hcw
1306A

DUPONT
ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

P. O. Box 1217
PARKERSBURG, W. VA. 26101

POLYMER PRODUCTS DEPARTMENT

CC: Jack J. Schramm, Regional Adm.,
EPA, Region III
Permit Programs Monitoring Unit,
3EN43MI
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

C. Ronald Sandy, Supervisor
W. Va. Div. of Water Resources
6321 Emerson Avenue
Parkersburg, WV 26101

June 9, 1981

CERTIFIED MAIL -
RETURN RECEIPT REQUESTED

David W. Robinson, Chief
W. Va. Division of Water Resources
1201 Greenbrier Street
Charleston, WV 25311

Dear Sir:

This letter is to inform you of toxicity information we have received from our supplier of the surfactant ammonium perfluorooctanoate, also known as FC-143, which is present in our outfall 005 (permit (WV0001279) in a concentration of about 0.1 mg/L. The 3M Company has advised us that this material has been found to cause defects in the unborn when fed by stomach tubes to female rats in a preliminary laboratory experiment. Du Pont uses FC-143 in the manufacture of fluoropolymer resins.

Much more testing must be conducted to determine the significance of the 3M experiment. As part of the ongoing program to determine the safety of our materials, both Du Pont's Haskell Laboratory and 3M are now planning more detailed experiments. However, we have taken the precaution of reassigning female personnel of childbearing capability to areas outside those in which fluoropolymer resins are manufactured or FC-143 is handled.

At this time, we do not know the significance, if any, of the preliminary animal experiment. FC-143 has been in use for decades without apparent adverse affects in humans.

If you need additional information, please let me know.

Very truly yours,

A. C. Huston
Environmental Control Consultant
Washington Works

ACH:hcw
1306A

AJP002663

EID079493

ATTACHMENT XIII

CC: Plant Staff
Manufacturing Supts
Maintenance Supts
Power & Services Supt
Research Supts

August 4, 1981

TO: H. T. BEGG
D. A. ERDMAN
L. W. GOIN
M. E. MAYBERRY
T. L. SCHRENK
S. J. WATSON
R. J. ZIPFEL

FROM: R. J. BURGER

C-8 PROGRAM
REVISION 1

The attached memo is to be communicated to your employees on the following schedule:

All Supervision after 8:00 AM - August 4

All Employees after 11:00 AM - August 5

Other Divisions may have employees who formerly worked in Fluoropolymers and participated in the blood sampling program. Where appropriate, please communicate with those employees on the same schedule.

RJB/sbr
Attachment
0224R

AJP002664

EID079494

000094

July 31, 1981

TO: FLUOROPOLYMERS PRODUCTION, TECHNICAL AND MECHANICAL SUPERVISION

FROM: R. J. BURGER

C-8 PROGRAM

As followup to previous communications, this information is to be used to communicate to employees. As additional information is available, we will inform you.

Blood Sampling

The blood sampling program for C-8 has been expanded. The program is voluntary.

- Production, Maintenance and Technical personnel, including supervision assigned to the Fluoropolymers Divisions, will be sampled annually during normal physicals.
- New permanent Production wage roll employees in the Fluoropolymers Divisions will be sampled as soon as practical upon entering the job and during the first quarter, second quarter, and at 12 months, then annually during physicals.
- Women who have left TEFLON® or who were sampled in April and May, 1981, will be resampled in four months and annually during physicals.
- Other selected individuals who have left TEFLON®, including some former employees, will be sampled annually.

C-8 blood results will be provided to individuals as results are available.

Thus far, we have seen no obvious trend of C-8 levels in blood with time. A better comparison will be possible with the above sampling program.

Toxicity Studies

Additional embryotoxic testing, including inhalation studies, is being conducted at Haskell Laboratories (the 3M Company data was based only on ingestion of C-8 by the test animals).

C-8 Replacement

An agressive program is underway by Research and Technical to develop and test replacement materials for C-8. This includes toxicity studies at Haskell Laboratories.

Air Monitoring

The air monitoring program in Fluoropolymers is being expanded. Both personal and area samples will be collected at increased frequencies. The personal samples will determine the exposure level of various job tours, while the area samples will determine average C-8 concentrations in various locations.

The specific GC test for C-8 in air, developed at the Experimental Station, has been set up in the TEFLON® Lab. This will provide more accurate and timely results.

RJB/abr
0211R

ATTACHMENT XV

April 6, 1981

PERSONAL & CONFIDENTIAL

TO: W. A. BOWER

FROM: Y. L. POWER, M.D.

The following is what I basically discussed with each female employee working in TEFLON® who expressed a desire to undergo a tubal ligation:

1. I strongly advised them that to undergo a tubal ligation just to maintain a position in a particular area of the Plant is not medically justifiable.

2. I saw the women who were considering tubal ligation very shortly after they were notified concerning C-8 and believe that they were reacting emotionally without thinking carefully about the consequences of this procedure. I urged them not to make any rash decisions and to consider very carefully what they were considering.

3. If they insisted upon tubal ligation, we couldn't prevent them from having it done.

4. Several of the women stated that they were considering having this procedure done anyway - most stated that they had no desire to have additional children.

5. I did not discuss or mention disability benefits.

YLP:mah

AJP002667

EID079497

000097